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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/764,343

01/23/2004

Srdan Mutabdzija

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LOWRIE, LANDO & ANASTASI

RIVERFRONT OFFICE

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CAMBRIDGE, MA 02142

EXAMINER

CAVALLARI, DANIEL J

ART UNIT

PAPER NUMBER

2836

NOTIFICATION DATE

DELIVERY MODE

11/05/2007

ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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Office Action Summary

Application No.

10/764,343

Applicant(s)

MUTABDZIJA ET AL.

Examiner

Daniel Cavallari

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 10 August 2007.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-6,8-30,52 and 53 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-6,8-30,52 and 53 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 15 June 2006 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|----------------------------------------------------------------------------------------|-------------------------------------------------------------------|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>8/10/2007</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

The Examiner acknowledges the amendments submitted 8/10/2007. The amendments to claim(s) 1 & 16 and cancellation of claim 7 are accepted.

Information Disclosure Statement

The information disclosure statement(s) filed 8/10/2007 has been considered.

Response to Arguments

Applicant's arguments filed 8/10/2007 have been fully considered but they are not persuasive.

The applicant argues that "Downs does not disclose a battery comprising 'monitor...wherein the monitor is adapted to communicate with the external system by interrupting current of received power provided by the external system'". The Examiner respectfully disagrees and points out that Downs teaches a one-wire data-bus connected to an input pin in which data is sent in the absence of normal power (thus current). The Merriam-Webster Dictionary defines "interrupt" as "to break the uniformity or continuity of" wherein power is interrupted and data is sent.

Drawings

The drawings are objected to under 37 CFR 1.83(a) because they fail to show:

- Switch 315 (Figure 3, Specification Page 13)

as described in the specification. Any structural detail that is essential for a proper understanding of the disclosed invention should be shown in the drawing. MPEP § 608.02(d). Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

The drawings are objected to as failing to comply with 37 CFR 1.84(p)(4) because:

- Monitor (406, Figure 4) and monitor (304, Figure 3) are given the same name making it unclear whether they are the same component.

Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

The drawings are objected to under 37 CFR 1.83(a) because they fail to show:

- The Figures lack continuity as a whole when going between components of Figures 2-5. Like components should be given like names and different components should have unique names. Inputs and outputs of components should match throughout the drawings.
- It is unclear where Figure 4 (particularly component 406) fits into the rest of the circuit of Figure 3. Component 406 has a number of inputs and outputs which are unable to be matched to the other circuits.
- It is unclear whether component 403, Figure 4 is the same component as 506, Figure 5. If they are the same components, the inputs and output do not match.
- It is unclear what line 506 is coming from in Figure 5.

Any structural detail that is essential for a proper understanding of the disclosed invention should be shown in the drawing. MPEP § 608.02(d). Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1, 8, 14, 15, 20-23, 26, & 53 are rejected under 35 U.S.C. 102(b) as being anticipated by Downs et al. (US 2001/0009361).

In regard to Claim 1

A battery comprising:

- One or more cells (154, See Figure 1) that provide power to at least one output (Vdd).
- A monitor (102) that is adapted to monitor and store performance information relating to the operation of the one or more cells (See Paragraph 16) and which is adapted to communicate with an external system (Registers 130, 132, 134, 136, 138) and adapted to receive a monitor signal from an external system (HOST, See Figure 1) wherein the monitor is coupled to the one or more cells and is adapted to receive power from the monitor from the external system (HOST) (See Paragraph 17).
- Wherein the monitor is adapted to communicate with the external system by interrupting current of received power provided by the external system (HOST) [The examiner notes that the monitor receives data in the absence of normal power (current interruption) (See Paragraph 17)].

In regard to Claim 8

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- Wherein the monitor (102) is adapted to receive a monitor signal from an external system (line DQ) (See Paragraphs 16-17) and wherein the monitor (102) is adapted to receive power from an external system (HOST) (See Paragraph 16).

In regard to Claim 14, 15, 53

- Wherein the monitor is adapted to store manufacturing information (model type) (ie. serial number) relating to the battery (See Paragraph 16). [The examiner further notes that Downs teaches register capable of storing any type of information and it has been held that the recitation that an element is "adapted to" perform a function is not a positive limitation but only requires the ability to so perform. It does not constitute a limitation in any patentable sense. *In re Hutchinson*, 69 USPQ 138.]

In regard to Claim 20

- Wherein the battery further comprises a temperature sensor (114, See figure 1) and wherein the manufacturing information includes one or more constants relating to the temperature sensor (ie. serial number) and wherein the monitor is adapted to communicate the one or more constant to the external system (HOST) [Wherein the monitoring circuit provide the information to the wire DQ, See Figure 1].

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In regard to Claim 21

- Wherein the battery further comprises a resistor (R_{sens} , See Figure 1) used to detect current provided by the battery, and wherein the manufacturing information includes parameters related to the resistor (ie. serial number) to an external system (DQ, See Figure 1).

In regard to Claim 22

- Wherein the battery is adapted to store performance information indicating performance of the battery (temperature and battery registers 130 & 132; See Figure 1).

In regard to Claim 23

- Wherein the monitor is adapted to store performance information periodically (See Paragraph 20).

In regard to Claim 26

- Wherein the performance information includes a temperature of the battery (See Paragraphs 14-16).

Claims rejected under 35 U.S.C. 102(a) as being anticipated by Laletin et al. (US 2003/0206021).

In regard to Claim 1

A battery comprising:

- One or more cells (DUT, Figure 1B & Paragraph 16) that provide power to at least one output (16 & 18).
- A monitor (30, 40, 46) that is adapted to monitor and store performance information (Paragraph 169) relating to the operation of the one or more cells and which is adapted to communicate with an external system (22, 21, 48. Local Interface, Analog Test Bed) and adapted to receive a monitor signal from an external system (Local Interface) wherein the monitor is coupled to the one or more cells and is adapted to receive power for the monitor from the external system (via the Microprocessor 40, See Figure 1B) which is connected to the waveform generator which produces the current interrupts.
- Wherein the monitor (30) is adapted to communicate with the external system (22, 21, 48) by interrupting current of received power (Figure 10) provided by the external system [The examiner notes this is achieved by the components 22, 21, 48 which produce the current square wave pulses (interrupted current) which is transmitted to the DUT, 12, and transmitted to the preamplifier (30) to the microprocessor (40)].

In regard to Claim 2

- The battery in combination with an UPS (See Abstract).

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In regard to Claim 3

- Wherein the monitor (Differential Amplifier 54) is adapted to perform a reset (change value, high to low or vice versa) if the received power is insufficient (below a certain level) [The Examiner notes that this is the function of the differential amplifier, to compare to values and switch the output upon the difference being below/above a certain predetermined threshold].

In regard to Claim 4

- Wherein the monitor includes an associated memory (46) in which the monitor is adapted to store the performance information. The Examiner notes it has been held the recitation that an element is "Adapted to" perform a function is not a positive limitation but only requires the ability to so perform. It does not constitute a limitation in any patentable sense. *In re Hutchinson*, 69 USPQ 138.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 5 & 6 are rejected under 35 U.S.C. 103(a) as being anticipated by Laletin et al. in view of Blair et al. (US 6,700,351).

In regard to Claims 5 & 6

Laletin et al. (hereinafter referred to as Laletin) teaches a monitor comprising memory but fails to explicitly teach the type of memory used.

Blair et al. (hereinafter referred to as Blair) teaches a monitor comprising memory wherein the monitor includes nonvolatile EEPROM memory in which the monitor is adapted to store performance information (See Column 9, lines 22-37).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate the EEPROM memory taught by Blaire into the device of Laletin. The motivation would have been to use a memory that is well known and used in the art, cheap and readily available.

Claims 9, 10-13, & 52 are rejected under 35 U.S.C. 103(a) as being unpatentable over Downs in view of Wendelrup et al. (US 6,584,329).

In regard to Claims 9, 11, & 12

Incorporating all arguments above of the battery taught by Downs et al. (hereinafter referred to as Downs), Downs fails to teach the particular communication means used in the battery system.

Wendelrup et al. (hereinafter referred to as Wendelrup) teaches a battery monitoring system wherein data is adapted to be transmitted in an asynchronous

manner (See Column 3, Lines 29-34). Wendelrup further teaches wherein a monitor (ie. battery 103) is adapted to receive, after the start of communication is detected, a request message (301) from the external system (ie. electronic device 401) (Column 4, Line 56 to Column 5, Line 24) and wherein the monitor (103) is adapted to transmit a response message (402) in response to the received request message (401) (See Figure 4).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate the asynchronous data communication taught by Wendelrup with the battery monitoring system of Downs who is silent in regard to the particular data communication means used. The motivation would have been to utilize a communication means well known in the art and a "handshaking" type means to ensure communication is working (See Wendelrup Column 1, Line 58 to Column 2, Line 6).

Downs further teaches:

In regard to Claim 10

- Wherein start of communication with the battery is initiated by the external system interrupting the current of the power supply [The examiner notes that the monitor receives data in the absence of normal power (current interruption) (See Paragraph 17)].

In regard to Claims 13 & 52

- Wherein the monitor comprises an LC-type crystal oscillator (crystal 150, See Figure 1) that provides clocking for the monitor (102).

Claims 16-19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Downs in view of Bohne et al. (US 2004/0160210).

Incorporating all arguments above of the battery system taught by Downs, Downs teaches the use of a "Smart Battery (See Paragraph 13) but fails to explicitly teach wherein the manufacturing information includes the manufacturing date, battery constants, and rating information.

Bohne et al. (hereinafter referred to as Bohne) teaches a battery device using a Smart Battery wherein the manufacturing date of the battery, battery constants related to the batteries expected performance (ie. type of cell) are stored in memory and transmitted when necessary (See Paragraph 19).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate the battery information taught by Bohne et al. with the Smart Battery taught by Downs. The motivation would have been to provide the information to better control the battery and determine operating parameters, for example, determine that the battery has reached its expiration date and should be changed based on the date it was manufactured or identify a battery recall based on the date it was manufactured).

Claims 16-19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Downs et al. in view of Bohne et al. (US 2004/0160210).

Incorporating all arguments above of the battery system taught by Downs, Downs teaches the use of a "Smart Battery (See Paragraph 13) but fails to explicitly teach wherein the manufacturing information includes the manufacturing date, battery constants, and rating information.

Bohne et al. (hereinafter referred to as Bohne) teaches a battery device using a Smart Battery wherein the manufacturing date of the battery, battery constants related to the batteries expected performance (ie. type of cell) are stored in memory and transmitted when necessary (See Paragraph 19).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate the battery information taught by Bohne et al. with the Smart Battery taught by Downs. The motivation would have been to provide the information to better control the battery and determine operating parameters, for example, determine that the battery has reached its expiration date and should be changed based on the date it was manufactured or identify a battery recall based on the date it was manufactured).

Claims 24, 25, 27-30 are rejected under 35 U.S.C. 103(a) as being unpatentable over Downs et al. in view of Blair et al. (US 2004/0160210).

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Downs teaches monitoring the battery but fails to explicitly teach:

- Wherein the monitor is adapted to communicate the number of discharges of the battery to the external system.
- Wherein the monitor is adapted to communicate the software identifier of the monitor to the external system.
- Wherein the performance information includes an accumulated time the battery is in a charge state.
- Wherein the performance information includes an accumulated time that the battery is in the floating state read on by the total system operation time.
- Wherein the performance information includes an accumulated time the battery is in a discharge state, read on by total watt-hours delivered on battery.
- Wherein the performance information includes a maximum temperature experienced by the battery, read on by the total counts of over temperature.

Blair teaches:

- Wherein the monitor is adapted to communicate the number of discharges of the battery to the external system (See Column 9, Lines 22-39).
- Wherein the monitor is adapted to communicate the software identifier (module hardware compatibility) of the monitor to the external system (See Column 9, Lines 22-39).
- Wherein the performance information includes an accumulated time the battery is in a charge state (total time on battery) (See Column 9, Lines 22-39).

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- Wherein the performance information includes an accumulated time that the battery is in the floating state (float charged state) read on by the total system operation time (See Column 9, Lines 22-67).
- Wherein the performance information includes an accumulated time the battery is in a discharge state, read on by total watt-hours delivered on battery (See Column 9, Lines 22-67).
- Wherein the performance information includes a maximum temperature experienced by the battery, read on by the total counts of over temperature (See Column 9, Lines 22-67).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate the battery monitoring taught by Blair into the system of Downs. The motivation would have been to better protect the battery and system.

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not

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mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Daniel Cavallari whose telephone number is 571-272-8541. The examiner can normally be reached on Monday-Friday 9:00am-5:30pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Michael Sherry can be reached on (571)272-2800 x36. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Daniel Cavallari

October 29, 2007

A handwritten signature in black ink, appearing to read 'MS', followed by the date '10/29/07' and a small circular mark.

MICHAEL SHERRY
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2800